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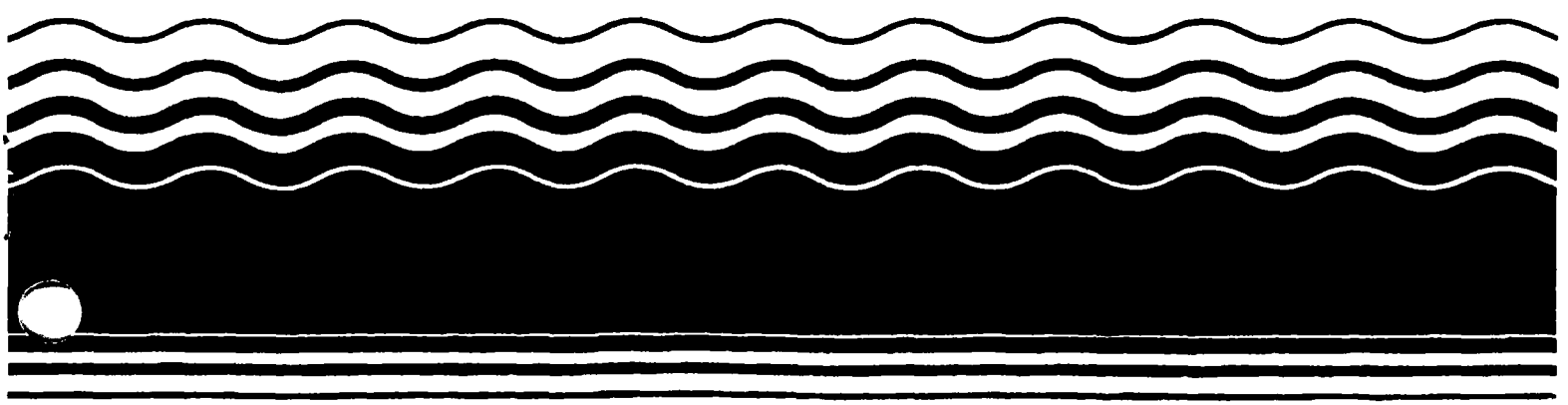
EPA 541-R98-188
March 1999

EPA Superfund
Explanation of Significant Difference for the Record of Decision:

Waite Park Wells
Waite Park, MN
8/11/1998



Minnesota Pollution Control Agency

Post-it® Fax Note 7671	Date 10/30	# of pages ▶ 10
To Linda Howard	From Brenda	
Co./Dept. EPA	Co. MPCA	
Phone #	Phone #	
Fax # 312 353 5541	Fax # 297-2343	

August 11, 1998

Ms. Judith McDonough
Burlington Northern Santa Fe Railroad
Northtown GOB
80 44th Avenue North East
Minneapolis, Minnesota 55421

RE: Implementation of the August 1998 Explanation of Significant Difference for Impacted Soil at the Burlington Northern Car Shop Site, Waite Park, Minnesota

Dear Ms. McDonough:

The Minnesota Pollution Control Agency (MPCA) has completed the August 1998 Explanation of Significant Difference (ESD) to the July 14, 1994, Record of Decision for the Burlington Northern Car Shop site (Site) in Waite Park, Minnesota. A copy of the ESD is enclosed. In accordance with the October 22, 1985, Request for Response Action issued to Burlington Northern Railroad Company for the investigation and remediation of the Site, the MPCA staff requests the Burlington Northern and Santa Fe Railroad Company (BNSF) to provide a schedule for the completion of work by August 21, 1998. Please note that if the current temporary stockpile remains on-site over winter, additional measures will be necessary in order to comply with Resource Conservation and Recovery Act of 1976 (PL 94-580) minimum stockpile storage requirements as specified in MN Rules ch. 7045.0534.

The MPCA staff has included a Responsiveness Summary to the ESD. The Responsiveness Summary provides a response to your July 27, 1998, comments and other comments received. As stated in the MPCA March 25, 1998, letter after careful consideration of your request, the MPCA staff has determined that they are not amenable to the placement of untreated (i.e. unstabilized) stockpiled soil in an on-site containment cell.

The MPCA staff appreciates your continued cooperation with the investigation and remediation of the Site. If you have further questions regarding this matter, please contact Brenda Winkler, the Site project manager, at (651) 296-7813.

Sincerely,

Gary L. Eddy, Supervisor
Response Unit I
Site Response Section
Ground Water and Solid Waste Division

BW:lkk

Enclosure

cc: The Honorable Richard E. Miller, Mayor, City of Waite Park
Kurt Geiser, Remediation Technologies Inc.
Jeffrey Baird, Clerk, City of Waite Park
Stan Weinberger, Attorney
Ron Morton, Morton Construction
Gordon Hansmeier, Attorney
City of Waite Park Library

EXPLANATION OF SIGNIFICANT DIFFERENCES
FOR THE JULY 14, 1994, RECORD OF DECISION
BURLINGTON NORTHERN CAR SHOP SITE
WAITE PARK, MINNESOTA
AUGUST 1998

INTRODUCTION

The Burlington Northern Car Shop site (Site) is located in Waite Park (City), Stearns County, Minnesota. The Site is rectangular in shape and includes approximately 200 acres of land in Section 8 and 9, T124N, R28W, of the SW/4 St. Cloud 15' Quadrangle. The location of the Site is shown on Figure 1.

The city of St. Cloud is adjacent to the northern boundary of the Site. The Site is bounded on the north by the Electric Machinery (EM) site, an industrial park, and a trailer park; to the south by Third Street, then a residential neighborhood; to the east by residential homes and a commercial park; and the west by the Sauk River. For remedial investigation purposes, the Site was separated into eight parcels (Area's A through H). Tenth Avenue runs north-south through the Site and separates Area A from Areas B through H. The City municipal wells are located in Area H. The features on the Site and in the vicinity of the Site are shown on Figure 2.

The Site as well as the EM site, is part of the Waite Park Ground Water Contamination site. The Waite Park Ground Water Contamination site is listed on the U.S. Environmental Protection Agency's (EPA) National Priorities List (NPL) with a Hazard Ranking Score (HRS) of 32. Although the Site is considered a part of the Waite Park Ground Water Contamination site, it is listed separately on the state of Minnesota's Permanent List of Priorities (PLP) with an HRS score of 38. The Waite Park Ground Water Contamination site is currently in the EPA Enforcement Deferral Pilot Project which gives the Minnesota Pollution Control Agency (MPCA) the lead agency responsibility for the Site. The MPCA is overseeing the Site cleanup conducted by the Responsible Party, the Burlington Northern and Santa Fe Railroad Company (BNSF).

The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) as amended by the 1986 Superfund Amendments and Reauthorization Act (SARA) states, at Section 117 (c), that:

> [a]after adoption of a final remedial action plan--
> (1) if any remedial action is taken,
> (2) if any enforcement action under section 106 is taken, or
> (3) if any settlement or consent decree under section 106 or section 122 is entered into,
>
> and if such action, settlement, or decree differs in any significant respects from the final plan, the President or the State shall publish an explanation of the significant differences and the reasons such changes were made.

The July 14, 1994, Record of Decision (ROD) identified the following two alternatives which met state and federal criteria for remediation of impacted soil at the Site:

Solidification/Stabilization and On-site Containment; and
Solidification/Stabilization and Off-Site Landfill

Solidification/Stabilization and On-site Containment was selected over Off-Site Landfill based on the Responsible Party preference for treatment and their estimated cost. Since implementation of the July 14, 1994, Record of Decision (ROD) additional lead impacted soil, exceeding the cleanup levels, has been identified at the Site. This Explanation of Significant Differences (ESD) has been developed to explain that an Integrated Remedy will be used to address impacted soil at the Site.

The Integrated Remedy will use a risk based approach that may include a combination of any of the following remedial actions: excavation, treatment and hauling to an off-site landfill; evaluating risk of exposure to public health and the environment to determine if impacted material may remain in place; and use of engineering and institutional controls to ensure that the remedy remains protective of public health and the environment. Specific details are presented below in the section titled Description of Significant Differences and the Basis for Those Differences.

This ESD will become part of the permanent Administrative Record file for the Site, and will be kept at the repository which is available for public inspection. The repository is located at the MPCA St. Paul office and the Waite Park Community Library.

SUMMARY OF SITE HISTORY AND CONTAMINATION PROBLEMS

In the early 1880's, the Great Northern Railroad purchased the Site. A box car construction and repair shop was built in 1894 followed by a paint shop in 1896. Throughout the years, other types of railroad equipment were built and/or repaired on the Site. From 1950 to 1970, approximately 10,000 gallons of waste oil, paint, waste, and solvents were allegedly disposed of at the Site. In August of 1986, the Burlington Northern Railroad Company (BN) deeded a majority of the land and buildings to the City. Figure 2 shows the boundaries of the BN and City property. The City is currently developing Area A into a recreational area and has sold some parcels of the property east of Tenth Avenue that have been or are currently being developed for industrial and commercial uses.

In December 1984, volatile organic compounds (VOCs) were found in the City's municipal water supply wells. Initial provisions were made for a temporary supply of safe drinking water from nearby St. Cloud businesses, and on February 4, 1985, an emergency hookup between Waite Park and St. Cloud water systems was made to supply the City with safe water until the most appropriate long-term water supply system could be installed.

ESD. Please refer to the July 14, 1994, ROD, for a historical description of all soil and ground water contamination problems.

Paint containing high concentrations of lead was stripped from railroad cars at a sandblasting station in Area H. Waste sandblast sand was spread throughout the Site and used as fill in holes and lagoons. At the time of the July 14, 1994, ROD, the MPCA thought the majority of sandblast sand disposal areas were identified and subsequently addressed in remedial actions completed in 1996. Subsequent studies have shown that additional lead impacted soils are present at the Site. The known areas are located in Areas A, B and C and H. Approximately 60,000 cubic yards of lead impacted soil has been removed from Areas A, B, C, and H, and stockpiled for treatment and disposal. Impacted soil remaining in place that must be addressed as part of this remedial action is still present in Areas B and C. In addition, MPCA staff expects that future development activities are likely to encounter areas of lead impacted soil.

SELECTED REMEDY

The selected remedy as presented in the July 14, 1994, ROD consists of the following:

Alternative C: Solidification/Stabilization and On-Site Containment. This alternative includes the excavation of lagoon waste, sandblast sands, and the contaminated dirt floor of the paint building, and incorporation of the consolidated sandblasts sands. Excavation of the contaminated waste would continue until analytical results of selected sidewall and bottom samples pass the remediation levels as specified in Table 1. Any visible oil in the excavations floating on the ground water would be removed by pumping or using sorbent pads. Excavations would be backfilled with clean fill, compacted, covered with topsoil, and seeded. The waste would then be solidified/stabilized. The purpose of solidification/stabilization is to reduce the concentrations of contaminants to below hazardous waste levels as specified in Table 4 and to minimize the mobility of the contaminants in the waste material. Solidification/stabilization, while implemented as a single technology, actually consists of two processes. Solidification consists of entrapping materials in a solid matrix with a high structural integrity, thereby minimizing the potential for constituents to leach from the waste. Stabilization methods involve the use of materials that limit the solubility and thus, the bioavailability and mobility of waste constituents. Several Solidification/Stabilization techniques are available, depending on the type of contaminants. However, Portland and Pozzolana cements are the most widely used with thermoplastic resins and organic polymers less common due to their high costs. Treatability studies would be conducted to determine the most appropriate method to use. The treated waste would be placed in a containment facility constructed on-site in Area E in accordance with the Minn. Rules Chapter 7035 pt. 2815. Contingency action plans and post closure requirements would be conducted in accordance with Minn. Rules Chapter 7035 pt. 2615 and 2645. The facility design would include: 1) a liner system consisting of layers of synthetic material and/or clay and sand; 2) a leachate collection and detection system; 3) a cover system consisting of layers of

On October 22, 1985, the MPCA issued a Request for Response Action (RFRA) to BN, citing BN as a source of contamination to the City's water wells. On March 25, 1986, and September 26, 1986, the MPCA also issued RFRAs to Brown Boveri & Company Ltd., Cooper Industries, Inc., Dresser Industries, Inc., and Electric Machinery Manufacturing (Responsible Parties) for the adjacent EM site. The RFRAs also cited the EM site as a source of contamination to the City wells.

The RFRAs requested both BN and EM Responsible Parties to conduct a Remedial Investigation/Feasibility Study (RI/FS) and implement a Remedial Design/Response Action (RD/RA) Plan for a long-term water supply treatment system for the City. The RFRAs also requested BN and EM Responsible Parties to conduct an RI/FS and implement an RD/RA to address the contamination at their respective sites.

In September 1986, the MPCA staff approved the installation of an air stripping unit that would remove the contaminants from the City water supply. Burlington Northern and Electric Machinery Responsible Parties jointly implemented a water treatment system and the City wells were placed back into service in February 1988. This is the remedy that is currently in place, providing an acceptable long-term water supply to the City. The City, Minnesota Department of Health, and the MPCA staff regularly monitor the water from the wells before and after treatment to ensure that the deep aquifer treatment system is functioning properly.

The EM site Record of Decision (ROD) was issued on January 5, 1989. The remedy implemented at the EM site included the treatment of the shallow aquifer by installing shallow aquifer pump out wells, packed tower aeration treatment, and discharge of the treated water to the Sauk River. Remediation of the deep aquifer is addressed by the City well treatment system. The MPCA completed a five year review on March 30, 1995. The review recommended that the capture zone effectiveness of both the Electric Machinery (EM) site pump-out system and the Waite Park Municipal Well field system be evaluated to determine if the contaminant plume is being adequately captured. The EM site RPs implemented the recommendations by developing a groundwater model which evaluated the groundwater flow paths and capture zones at the EM site and Waite Park municipal pumping systems and by reviewing historical water level measurement data from wells at the site. The evaluation concluded that the EM site and Waite Park pumpout/well systems are effective in containing and treating the plume of chlorinated VOCs.

The BN Site ROD was issued on July 14, 1994. Excavation and treatment of impacted soils in Areas A, C, H and the Paint Shop Building and construction of an on-site containment cell was completed in 1994 and 1995. The total volume of 41,900 cubic yards of treated soil was placed in the containment cell. This was reported in the April 1995 Excavation Documentation Report and the December 1995 Volume I and II Excavation/Treatment Documentation Report. Confirmation testing and other information identified additional impacted soils in Areas A, B, C, and H. The following is a brief description of contamination problems that need to be addressed as part of this

synthetic material and/or clay and sand; 4) a ground water monitoring system; and 5) a gas collection system.

Deed restrictions would be placed on any area that is not remediated to unrestricted land use remediation levels and on the property containing the facility. This alternative also includes a ground water monitoring network as required in Alternative A.

DESCRIPTION OF SIGNIFICANT DIFFERENCES AND THE BASIS FOR THOSE DIFFERENCES

In the period since the ROD was signed, the MPCA has advanced initiatives to develop a risk-based approach to decision-making during investigation and remedy selection at Superfund and Voluntary Investigation and Cleanup sites. The MPCA has developed draft guidance for implementation of this approach presented in the *MPCA August 25, 1997, Draft Guidelines on Guidance on Incorporation of Planned Property Use Into Site Decisions.* Although planned property use, recreational and industrial, was used in setting the original cleanup levels, the risk-based approach takes this concept further by evaluating whether contamination may remain in place as part of a remedial action and engineering and institutional controls are used to ensure that the remedy remains protective of public health and the environment.

As described above, an Integrated Remedy will be used to address impacted soil at the Site. Approximately 60,000 cubic yards of impacted soil, exceeding cleanup levels, has been excavated from Areas A, B, C, and H and stockpiled. This soil will be stabilized and hauled to an off-Site Landfill. Solidification/Stabilization and Off-Site Landfill was an acceptable alternative presented in the July 14, 1994, ROD and is summarized below:

Alternative D. Solidification/Stabilization and Off-Site Landfill. This alternative includes excavation, oil removal, backfilling, and solidification/stabilization of waste materials as described in Alternative C. Once the waste is solidified/stabilized to below hazardous levels the waste can be disposed of off-site at an industrial waste landfill. Treated waste would be transported to an industrial waste landfill in trucks.

Deed restrictions would be placed on any area that is not remediated to unrestricted land use remediation levels. This alternative also includes a ground water monitoring network as required in Alternative A.

Solidification may or may not be used in the stabilization process of the 60,000 cubic yards of stockpiled soil. Regardless, the soil will be stabilized to meet Table 4, Treated Soil Remediation Levels, as well as any off-site landfill waste acceptance criteria.

An additional significant difference is using a risk-based approach to evaluate whether contamination may remain in place as part of a remedial action. The use of engineering and institutional controls may be necessary to ensure that the remedy remains protective of public health and the environment. Any proposed Integrated Remedy shall be

developed in accordance with the needs of all affected parties. Commissioner approval of any proposed actions or contingency plans will be necessary and may include conditions which the Commissioner deems reasonable and necessary to protect public health or the environment, and shall not be unreasonably withheld.

Institutional Control language will reflect site conditions to assure that response actions remain protective of public health and the environment by limiting uses or activities on the property that could result in exposure to hazardous substances that remain on the property after response actions are completed. An example of this is in Area A where a significant volume of impacted soil was removed to a depth of four feet. Impacted soil and debris remain at a depth greater than four feet. Institutional Control language will be developed and filed with the property deed that place restrictions on excavation activities at depths greater than four feet. The language will also serve as a mechanism to notify appropriate parties of the presence of residual contamination and accompanying controls; and or ensure long-term mitigation measures or monitoring requirements (e.g. engineering controls) are carried out and maintained.

To date, BNSF has spent over $10,000,000 in investigation and remediation activities at the Site. The stabilization and off-site landfilling of the 60,000 cubic yards of impacted soil is estimated to cost an additional $3,000, 000 to $7,000,000. Although significant remedial efforts have been undertaken to remove and treat impacted soil, residual impacts remain. By using a risk-based approach to address these impacted areas additional remediation costs will be significantly reduced without adversely affecting public health and the environment..

AFFIRMATION OF STATUTORY DETERMINATIONS

Considering the new information that has been developed and the changes that have been made to the selected remedy, the MPCA believes that the remedy remains protective of public health and the environment, complies with federal and state requirements that are applicable or relevant and appropriate to this remedial action, and is cost-effective. In addition, the revised remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable for this Site.

PUBLIC PARTICIPATION ACTIVITIES

The administrative record for this Site is located at the MPCA St. Paul office and the Waite Park Community Library. If you need further information, you may contact the Site Public Information Officer:

Katherine Carlson
1-800-657-3864.
Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, Minnesota 55155-4194

Minnesota Pollution Control Agency Responsiveness Summary
August 1998 Explanation of Significant Difference to the
July 14, 1994 Record of Decision

Comment: The West River Business Park Partnership (Partnership) objects to and would be adversely affected by the decision to allow material to remain on the Burlington Northern Car Shop site (Site) which would result in further limitations on the use of the Site or the imposition of engineering controls and deed restrictions more restrictive than those currently recorded against the Site.

Response: The Explanation of Significant Differences language will be modified to accommodate the Partnership concerns by including the following language: Any proposed Integrated Remedy shall be developed in accordance with the needs of all affected parties. Commissioner approval of any proposed actions or contingency plans will be necessary and may include conditions which the Commissioner deems reasonable and necessary to protect public health or the environment, and shall not be unreasonably withheld.

Institutional Control language will reflect site conditions to assure that response actions remain protective of public health and the environment by limiting uses or activities on the property that could result in exposure to hazardous substances that remain on the property after response actions are completed.

Comment: Burlington Northern (BN) commented that in the second paragraph the City is referred to as St. Cloud not Waite Park.

Response: The Minnesota Pollution Control Agency (MPCA) will modify the text accordingly.

Comment: BN requested the MPCA to evaluate the option of placing unstabilized impacted material in an on-site containment cell.

Response: Placement of lead contaminated soils which are characteristically hazardous is in direct violation of the Minnesota Rules and cannot be allowed. The MPCA staff based their decision on the following Applicable, Relevant and Appropriate Requirements (ARARs):

- According to Minnesota Rules ch. 7045.0131 a material is considered to be hazardous if it exhibits one or more of the characteristics as outlined in subparts 2 to 7. One of the characteristics listed is toxicity and is further defined in subpart 8 The data shown in Tables 2 and 5 clearly demonstrate that the stockpiled soil is hazardous because the analytical results exceed the maximum concentration for the Toxicity Characteristics Leaching Procedure (TCLP) for lead which is 5.0 mg/l.

- If an on-site solid waste management facility is constructed Minnesota Rules ch. 7035.2535 specifically states that an owner or operator of a solid waste management facility, in this case Burlington Northern Santa Fe Railroad (BNSF), must not accept wastes determined to be hazardous as defined by Minnesota Rules ch. 7045.

- Treatment of hazardous waste is required prior to placement in a hazardous waste land disposal unit. Minnesota Rules ch. 7045.1309, subp 3 Special Rules Regarding Wastes that Exhibit a Characteristic. "In addition to any applicable standards determined from the initial point of generation, no prohibited waste that exhibits a characteristic under part 7045.0131 may be land disposed unless the waste complies with the treatment standard under parts 7045,1350-1360." For the stockpiled soils treatment would most likely include solidification/stabilization such that the soils meet the Land Disposal Requirements (currently the TCLP for lead).

Additional ARARs are listed in the July 14, 1994 Record of Decision.

Comment: BN has requested the remedial cost estimates to be modified based on more precise information.

Response: MPCA will modify the text to reflect these more refined estimates.

Comment: Several citizens indicated that they would prefer the stabilized soils to be shipped off-site by rail.

Response: MPCA has requested BN to evaluate costs, transportation by rail may be less expensive than by truck, but BN has not yet obtained approval to dispose of stabilized soils at the landfill which is accessible by rail.

If truck transportation is necessary, the MPCA has requested the responsible parties to work the city of Waite Park to develop an acceptable truck route.

Comment: A citizen inquired whether the soils, removed from Lot 6 of the West River Business Park development, are contaminated.

Response: MPCA staff has requested the Partnership to evaluate the lead concentrations in these stockpiled soils and develop a plan for disposal if necessary.